

www.SunSafetyForKids.org

To counter the skin cancer epidemic, Sun Safety for Kids® provides information for school and summer camp administrators to utilize in developing sun safety programs for the purpose of protecting children from the cancer-causing effects of sun exposure. Highlights include...

**Why** protection of children from the sun's ultraviolet radiation is particularly important in the fight to prevent skin cancer.

**How** you can easily design an effective and comprehensive sun safety policy for your school, camp, park or child care facility.

Where to obtain sun protection hats, sunscreen products, curriculum, educational videos, shade structures, trees and additional information.

This document contains the basic informational content from the Sun Safety for Kids® program. For additional information and resources, such as images of a wide variety of sun-protective hats, and time-sensitive material such as "What's New," please visit our website at www.SunSafetyForKids.org.



Created and brought to you by dermatologists of
The Los Angeles Metropolitan Dermatological Society.
The material presented in this website is protected by Copyright (2001).

Permission is granted to make copies for personal use or for use within your school district or child care facility.

# **Table of Contents**

Introduction
Getting Started
Administration Policy Worksheet
Sample Letter to Parents
Sun-Protective Hats
Hats Policy Worksheet
Sun-Protective Clothing and Sunglasses
Clothing and Sunglasses Policy Worksheet
Sunscreen
Sunscreen Science
Sunscreen Policy Worksheet
Sample Letter to Parents re: Sunscreen
Environmental Support
Five Winning Shade Trees
Environmental Support Policy Worksheet
Curriculum
Athletic & Music Departments
Athletic & Music Policy Worksheet
Websites and References

#### Introduction

Dermatologists of The Los Angeles Metropolitan Dermatological Society are alarmed by the epidemic of skin cancer in this country. In the year 2002 more than one million Americans will be diagnosed with skin cancer. 9,800 will die from it. The incidence of malignant melanoma, the most deadly of common skin cancers, has been increasing at a rate faster than for any other type of cancer. We clearly have a very serious problem and one which is getting worse.

Why are so many skin cancers occurring? Studies have shown that childhood sun damage, particularly sunburning, is mostly to blame. The American Academy of Dermatology estimates that the average person acquires 80% of his/her lifetime total sun exposure prior to age 18. A peer-reviewed statistical analysis concludes that 78% of skin cancers could be prevented by sun avoidance and sun protection during childhood.

While sunlight has many obvious beneficial effects in nature, it can wreak havoc with human skin. The only known health benefit of sunlight on the skin is its role in the manufacture of Vitamin D. The American diet generally provides sufficient Vitamin D, or a daily multivitamin can be taken. By contrast, the sun's ultraviolet (UV) rays penetrate the skin's cells, causing mutations in some of the cellular DNA. As with other carcinogens, it may take many years of exposure or a long lag period before cancer occurs. Yet the evidence for this association is so strong that both the US National Institutes of Health (NIH) and the World Health Organization (WHO) list solar radiation as a "Known Human Carcinogen." This places UV radiation alongside other known carcinogens such as arsenic, tobacco smoke, and asbestos. Parents should do their best to educate and protect their children from carcinogens. Schools, camps, and parks share this responsibility during the time children are entrusted to their care. According to the CDC,

"Schools need to be sun-safe places to reduce children's exposure to UV radiation. Schools also can teach students the knowledge, motivation, and skills they need to adopt and maintain sun-safe behaviors for a lifetime. School-based programs on sun safety are an effective way to teach children at an early age how to protect themselves and help decrease their risk of developing skin cancer as adults."

Sun Safety for Kids provides detailed, user-friendly guidance covering all three of the major yet interconnected concerns which are crucial to a comprehensive sun safety program:

- \* Educational Curriculum
- \* Policy
- \* Environmental Support

#### **EDUCATIONAL CURRICULUM**

Children, especially teenagers, commonly show little concern for how their behavior today might affect them in their later years, particularly if the consequences are somewhat vague to them. Many still think that a suntan makes them look more healthy and attractive without realizing that a tan is merely the skin's way of reacting to UV assault in its attempt to protect itself from further

#### damage.

Fortunately, excellent educational curriculum materials on sun protection for use by classroom teachers are available for all grade levels, Pre-school - 12. Very young children will not hear about cancer but will learn how to practice the most effective methods of sun protection. High school students, by contrast, will see a very graphic and shocking demonstration of the serious consequences of excessive sun exposure. This has been shown to have a significant impact on their attitude toward tanning.

We have evaluated available instructional materials and give recommendations appropriate for each grade level. At the secondary level, sun safety lessons fit well with health or science courses. Correlations of the recommended curricula with California educational standards are being developed and will be posted to this website as soon as available. Some of the curricula are free; none are expensive. Contact listings for more information and purchase are provided in the Curriculum section

#### **POLICY**

Education, while certainly very important, will not be enough. This is why it is so important for schools to develop policies which will encourage and perhaps eventually require students to take sun-protective measures while in school. Even if some children don't fully comprehend the necessity for sun protection, they will directly benefit from an adequate school sun safety program since they will be exposed to less carcinogenic radiation during their time spent outdoors at school. Once habituated to sun safe practices as a result of the school policy, children may be more likely to take better precautions outside school as well.

The recent passage of SB310, which requires that California schools must allow pupils to wear a hat and sun-protective clothing when outdoors, will result in the need for revision of the dress code at most schools. This presents a timely opportunity for school administrators to consider the greater issue of sun safety and to install a comprehensive program of policy and curriculum to complement the accommodation of SB310, as outlined in the SSK Guide.

Australia, with the unfortunate honor of having one of the highest skin cancer rates in the world, has taken the lead in skin cancer prevention. Beginning in the early 1980's, the Sun Smart program for schools was developed which combines school policy changes and educational curriculum to promote sun protection. Their "Slip! Slap! Slop!" slogan reminds children that before going out to the school yard they should Slip! on a long sleeved shirt, Slap! on a hat, and Slop! sunscreen on uncovered areas. Australia's efforts are beginning to pay off as the latest statistics are showing a slight decrease in their skin cancer incidence.

Particularly here in Southern California, our sunny climate and our love for outdoor recreation present a compelling need for programs similar to those successfully established in Australia.

Considering the serious consequences of skin cancer and death from melanoma, schools, camps, and parks are urged to develop policies to protect children from solar assault while under their care.

One of the most difficult choices to make in formulating a sun safety policy will be to decide whether the children are permitted, are encouraged, are strongly encouraged, or are required to cover up and wear sunscreen when outdoors. In Australia, children are not permitted to play outdoors at "Sun Smart" schools unless they Slip! Slop! Slap! This would be the ideal goal for American children as well but depending on the initial level of motivation among students and their parents it might prove more successful to begin your sun safety program by emphasizing sun safety education and setting policies of relatively gentle encouragement combined with positive incentives. The degree of encouragement could gradually increase over time. Pre-school programs might choose right away to develop more strongly protective policies knowing that good habits acquired at a young age will likely carry on.

Our policy recommendations are divided into sections such as hats, sunscreen, long clothing, etc. In each section, background information is provided which includes a discussion of reasonable policy options. This is followed by a policy development worksheet in which options are presented in graduating degrees of strength for your consideration. You may adopt the ones best suited to your institution's circumstances or use them merely as a suggestion for writing your own policy in the blank space provided.

You will be prompted to consider sun safety policy for staff as well as children. This is important not only for the direct protection of staff personnel in the performance of outdoor duties but also because staff members serve as important role models for the children. For these reasons a higher level of safety compliance might be expected of the staff.

#### ENVIRONMENTAL SUPPORT

Environmental support refers to the ways in which shade options can be provided in order to lessen children's exposure to UV radiation.

Shade is a very important and highly desirable element at any school, camp, park, or recreational facility. Any outdoor area where children congregate or play could be evaluated for shade development. Lunch areas should definitely be covered. Consideration should be given to the feasibility of eventually providing shade for as many recreational areas as possible. Shade can be provided by trees, shade structures, or architectural elements.

Another method for providing environmental support is with the scheduling of outdoor activities. Resources are always limited but during the hours of highest UV intensity between 10:00 a.m. and 4:00 p.m. efforts should be taken to make as many indoor areas and indoor activities available to children as possible.

No existing tree should be removed without considering the impact it would have on shade reduction. The planting of new shade trees is highly recommended.

We provide specific references for shade structure dealers and for recommended shade trees including wholesale growers.

Dermatologists repeatedly hear the same refrain from skin cancer patients: "When we were

young, no one told us we should stay out of the sun." We hope that the current generation of children will be unable to make that claim when they grow up.

This Sun Safety for Kids material is copyrighted (2001) however permission is granted to make copies for personal use by schools, school districts, and other child care facilities.

#### Administration

Where and how to begin? The first and most important step in developing a sun safety program is simply to acknowledge the seriousness of the problem. Although skin cancer is the most preventable of all cancers, the incidence continues to rise relentlessly in our country, due mostly to sun exposure during childhood. If you agree that children deserve to be informed about the health threat of exposure to solar radiation, deserve to be educated about how to protect themselves and given opportunities to do so, then the conviction to develop a comprehensive sun safety program will naturally follow.

To begin, we recommend that a Sun Safety Committee be created. For schools, typically the Principal would establish the committee, name a coordinator, and allow the committee to provide guidance to the school's Governance Council. Candidates for the Coordinator position might include one of the school administrators, the school nurse, a physical education, health, or science teacher, or an officer of the P.T.A. Any member of the school staff who has had personal experience with skin cancer, or has a strong interest in skin cancer prevention, might be an ideal candidate to coordinate this new program.

The first challenge for the Sun Safety Coordinator will be to assemble a membership for the committee. The committee should provide representation from as many sectors of the school community as possible, e.g.:

- Administration
- Physical Education
- Health instruction
- Nursing
- Science instruction
- Parents
- Student leaders

We stress the importance of including students in the decision making process, particularly on issues such as hat and clothing policies. For example, the hats policy could flop if students perceived their only option to be "some dorky hat." Securing the cooperation of student leaders in choice and implementation will increase the probability of compliance by the general student body.

Once formed, the committee will be able to address and prioritize the various sun safety issues presented in this Guide.

## **SUN SAFETY PROGRAM**

# **ADMINISTRATION WORKSHEET**

# (Name of school) is dedicated to promoting sun safety for all students and staff. (Name of individual & title, or committee) shall be responsible for monitoring and managing our school's sun safety program and policies. Our Sun Safety program and policies will be reviewed, and necessary revisions made, on a regular basis at least every \_\_\_\_\_\_ months.

# Sample Letter to Parents Regarding Your School's Sun Safety Program

RE: Sun Safety

Dear Parent,

Here at <u>(School)</u> we are very concerned about safety, including sun safety.

The National Institutes of Health (NIH) has declared that solar radiation (sunlight) is a Known Human Carcinogen. The evidence is clear that nearly all skin cancers are due to overexposure to the sun. Statistics reveal that we have a very serious problem with skin cancer in our country and it's getting worse. More than 1 million Americans will develop skin cancer this year. There will be more skin cancers diagnosed than all other forms of cancer combined. The incidence of the most serious skin cancer, melanoma, continues to rise at a rate faster than for any other cancer and studies show that most were caused by **overexposure to sun during childhood.** Thus skin cancer is preventable! Please join us in the fight against skin cancer by helping your child to be adequately prepared for outdoor activities while at school.

Start by making sunscreen application a normal daily routine for your child prior to coming to school. While in school we encourage the students to "cover up" before going outdoors by putting on a sun-protective hat, slipping on long clothing, and re-applying sunscreen to areas of their skin that are not covered. Please be sure to provide your child with an appropriate hat, outdoor play clothes and sunscreen to keep among their school supplies.

We're taking additional steps to improve shade options at our school which include changes in the scheduling of outdoor activities in order to minimize midday sun exposure. We will provide more opportunities for activities in shaded areas or indoors. Remind your child to choose the shade when there's an option. If you feel strongly about skin cancer prevention please contact <a href="(Name of contact & contact info.)">(Name of contact & contact info.)</a> and offer your assistance with our efforts to acquire a shade structure or to help with a tree planting drive.

Please talk to your child about the danger we face if we're not careful about sun exposure during childhood. Explain that sunburns are very serious because they increase the risk of skin cancer. Also explain that there's no such thing as a "healthy tan." A suntan is the skin's method of demonstrating that it has been damaged. Tanning results in blotchy wrinkled old-looking skin which also is at increased risk for skin cancer. Point out that only those people who don't know better would still try to get a suntan. Based on what we now know about sun damage, a suntan has become a badge of ignorance or bad judgment. "Not cool!" With proper protection, we can still enjoy our favorite outdoor activities but suntanning, whether outdoors or at a tanning parlor, is unsafe and unwise.

Sincerely,

# **Sun-protective Hats**

Bearing in mind that sunscreen does not provide complete protection, wearing an appropriate hat outdoors is an excellent way to reduce ultraviolet radiation to the face, head and neck. If children can become accustomed to wearing a hat outdoors at school, it will be a tremendous step toward the development of improved sun protection lifestyle habits.

For quite some time hats have been prohibited at most schools due to concerns regarding gang association or sloppy attire. At some schools, children could not even wear a hat with a doctor's note. To overcome this obstacle, legislation was initiated and sponsored by the William S. Graham Foundation for Melanoma Research. California Senator Don Perata (East Bay / Oakland) introduced the bill which was designated as California SB310 (Billy's Bill for Sun Safety.) The bill passed and became effective January 1, 2002. SB310, added as Section 35183.5 to the California Education Code, requires that:

- (a) Each schoolsite shall allow for outdoor use during the school day, articles of sun-protective clothing, including, but not limited to, hats.
- (b) Each schoolsite may set a policy related to the type of sun-protective clothing, including, but not limited to, hats, that pupils will be allowed to use outdoors pursuant to subdivision (a). Specific clothing and hats determined by the school district or schoolsite to be gang-related or inappropriate apparel may be prohibited by the dress code policy.

SB310 effectively grants discretion to parents and pupils to decide for themselves whether the child will wear a sun-protective hat for outdoor activities at school. Yet schools retain significant authority to define the type or style of hat that will be allowable, to prohibit gang-related and other inappropriate hats, and to prohibit the wearing of hats indoors. Conscientious school administrators will recognize this as an opportunity to establish policies and explore incentives which encourage as many students as possible to wear hats while outdoors in order to reduce their risk for the later development of skin cancer.

While the importance of a hat as part of any sensible sun protection program cannot be overstated, there might be resistance, particularly in secondary schools, if policy should be abruptly reversed from one which prohibits hats to one which requires them. By contrast, a firm requirement of "No hat, No outdoor play" might be enthusiastically endorsed by parents of pre-school and some elementary school students, particularly during summer sessions. For most schools, we recommend a gradual phase in of sun-protective hats. Start by communicating to parents the cancer prevention rationale for your new hat policy and ask parents to encourage their children to wear a hat outdoors not only at school but for all outdoor activities. Notify and occasionally remind parents of the new policy, ask student leaders to start wearing a hat outdoors, and offer incentives. After a few months, evaluate the level of cooperation to determine whether there is any need for refinement either to your policy or to the hat selection. This could be the first step toward making sun protective hats more strongly encouraged or perhaps required at some time in the future.

In consultation with representative students, parents, and staff, the school administration should

set the revised hats policy to include not only the definition or description of what hat(s) are allowable but also the recommended method(s) of acquisition. Some schools may allow students to wear an appropriate hat acquired from any source of the student's choosing. Other schools may direct students to a single distributor while still other schools may purchase hats in bulk quantity for resale to students on campus. Some schools may allow an unlimited variety of hats under the premise that any hat is better than no hat. Others may restrict the choice to a single uniform hat. Unfortunately, a severely limited allowance of styles, particularly if the selection is made without student input, might inhibit student cooperation which would defeat the goal of reducing their exposure to carcinogenic solar radiation.

**Q:** What features should one look for in selecting or recommending a good sun-protective hat?

**A:** Ideally, it should shield as much of the face and neck as possible. Baseball hats, visors, and caps are less effective although certain children with long hair covering the neck may still derive significant protection from a wide brimmed visor. The hat should be constructed of material which has a UPF or SPF of 30 or more. If not labeled, it should not allow light to shine through when held up to a light source. Among the best choices are:

• A wide-brimmed hat

Brim of 3 to 4 inches wide all around

- OR -

A legionnaire (flappy-jack) hat
 Styled like a baseball cap but with a wider visor and a fabric flap covering the neck.

Other considerations might include the hat's ability to retain its usefulness after being stuffed into a pocket or backpack, whether the hat is washable, how well it stays in place during outdoor activities, and whether it's difficult for children to bend it out of shape and thereby defeat its sun blocking capacity.

Resources and images of a wide variety of sun-protective hats are listed on our website at www.SunSafetyForKids.org.

Both for their own protection, and with consideration given to their position as role models, school staff members should always wear a sun-protective hat when outdoors between 10:00 a.m. and 4:00 p.m.

Encourage student leaders to wear a hat when outdoors and consider rewards for groups or individuals with the best hat compliance.

Schools may choose to order sun-protective hats for re-sale. Dress code policy could be set which would strongly encourage the specific hat(s) offered by the school to be worn for outdoor activities. Engaging students in the choice of style, fabric, and colors for the hat should result in

more enthusiastic compliance and could boost school spirit as well. The hat could be custom designed with the school's insignia, mascot, or school colors. (Sun Safety for Kids has negotiated with several of the hat manufacturers on our list to accept custom orders and/or provide wholesale prices to schools.) Proceeds from hat sales could be designated for supporting the acquisition of other needed sun-protection items such as trees or shade structures.

Hats could also be used as merchandise in a fund-raising program similar to chocolate bar sales campaigns. In contrast to the negative health benefits of chocolate bars, encouraging students to sell the school's sun-protective hats would reinforce the sun safety message to the students and also create an opportunity for them to serve as proponents of a more healthy lifestyle for everyone.

The bottom line is that fewer of today's children will have to face the morbidity or mortality of melanoma as adults if they have been adequately protected from ultraviolet radiation during their youth. Developing the habit of wearing a hat outdoors is an important step toward achieving that goal.

# HATS POLICY WORKSHEET FOR REVISIONS TO SCHOOL POLICY AND DRESS CODE

Circle or edit your choices from our policy suggestions or write your own policy in the blank areas.

#### **POLICY SUGGESTIONS**

#### WRITE YOUR POLICY

1. Allowable Hat Definition In the space to the right, describe or designate the specific sun-protective hat or hat style(s) which are allowable for outdoor wear during the school day at your schoolsite.  Indicate whether certain or all other hat types are not permitted.	
<ul> <li>2. Hat acquisition (Select one or more) <ul> <li>The school will offer our approved sun-protective hats for sale on campus. (Establish a fund with designated application for proceeds.)</li> <li>Students may purchase or order a hat which meets our school's specifications from the designated dealer(s) on a list provided by the school. (Attach list.)</li> <li>Students may obtain a hat from any source so long as it meets our approved criteria as described in Item #1 above.</li> </ul> </li> </ul>	
<ul> <li>Select and set a student hat usage policy</li> <li>Students are encouraged to wear a sun-protective hat when outdoors.</li> <li>Students are strongly encouraged to wear a sun-protective hat when outdoors.</li> <li>Students are required to wear a sun-protective hat when outdoors. "No hat stay in the shade or stay indoors."</li> </ul>	

<ul> <li>4. Set staff hat usage policy</li> <li>Staff are strongly encouraged to wear a hat when outdoors</li> <li>Staff are required to wear a hat when outdoors.</li> </ul>	
<ul> <li>5. Field Trips (List hats policy in parental permission slip.)</li> <li>Sun-protective hats are strongly encouraged for outdoor field trips</li> <li>Sun-protective hats are required for outdoor field trips.</li> </ul>	

#### **Sun-protective Clothing and Sunglasses**

We have put so much emphasis on sunscreens that the effectiveness and importance of clothing in protecting from sun damage has been somewhat overlooked. Many people mistakenly believe that so long as they wear sunscreen, they'll have nothing to fear from even prolonged or intense sun exposure. A recent study of actual sunscreen usage revealed a high rate of sunburns at the beach even among individuals who used sunscreen. Clothing should be in the first line of defense against ultraviolet radiation with sunscreen serving as a backup.

When outdoors, full length clothing should be worn which covers as much skin as possible. The ideal outfit would include a long sleeved shirt or blouse with a collar, long pants or dress, closed shoes and socks. The most frequent objection to the suggestion to cover up is that it would be "too hot." Yet if loose fitting lightweight garments are chosen, long clothing can still be comfortable in hot weather. Certain fabrics "breathe" while still retaining sun blocking capacity.

A system for measuring the ability of a fabric to block ultraviolet light was developed in Australia. Results are reported in units of "UPF" which stands for Ultraviolet Protection Factor. A fabric with a UPF of 20 allows 1/20th (5 %) of the sun's UV radiation to pass through it to the skin. UPF ratings range from 15 to 50+. At UPF 50, only 2 % of the sun's UV radiation passes through. A UPF rating of 40 or higher is recommended for good sun protection. The Dow corporation has a similar UPF rating system for their "CoolMax" fabrics. Other fabrics may claim an SPF value which is similar to the SPF rating system for sunscreens. Despite the original UPF or SPF rating on a garment, it may diminish when wet, stretched, or worn out.

When shopping for outdoor clothing, look for a UPF or SPF rating on the label. If none is given, remember that those fabrics with a tighter weave and darker colors are more effective in blocking ultraviolet light. Hold the fabric up to the light and look for light shining through. Superior sun protective clothing allows little or no light to pass through. Fabrics such as denim, polyester or wool tend to better shield the skin from harmful UV rays.

Schools must decide whether to simply encourage or to require students to cover up when outdoors. In Australia, schools are setting policies to require children to "Slip!" on a long sleeved shirt, "Slap!" on a hat, and "Slop!" sunscreen on un-covered skin before going outdoors. A child who does not comply must remain indoors or in the shade.

To encourage compliance, children might be advised to keep a long sleeved garment or "play shirt" at school. Long sleeved shirts or pullovers with a high UPF could be ordered by the school in the school's colors and/or embossed with the school logo. Resale proceeds could be applied to the acquisition of a shade structure for the school grounds.

We are having difficulty in finding distributors of school gym uniforms who offer comfortable lightweight but full-length sun protective garments. This poses a challenge for secondary schools wishing to recommend a sun protective uniform for their physical education program. If you discover a supplier whose catalog includes sun protective garments, please let us know by contacting us at www.SunSafetyForKids.org.

Sun exposure is also a health concern for the eyes. The lens of a young child's eye does not completely block UV from reaching the retina. Cumulative sun exposure contributes to future development of cataracts. Schools should consider encouraging or requiring students and/or staff to "Slide!" on a pair of sunglasses that filter out 95 - 100% of the UV rays. As with hats, sunglasses in the school's colors or with the school logo could be sold on campus.

# SUN-PROTECTIVE CLOTHING AND SUNGLASSES POLICY WORKSHEET

#### **POLICY SUGGESTIONS**

#### WRITE YOUR POLICY

Students: (choose one)      are encouraged to     are strongly encouraged to     must wear a long sleeved shirt or blouse with collar whenever they are outdoors	
Students (choose one)      are encouraged to      are strongly encouraged to      must  wear long pants or a long dress whenever they are outdoors	
Sleeveless shirts or blouses are	
Shorts are	
Students without proper sun protective attire will be  • encouraged to  • required to  conduct their outdoor activities in shaded areas or remain indoors	

# SUN-PROTECTIVE CLOTHING AND SUNGLASSES POLICY WORKSHEET

## POLICY SUGGESTIONS

#### WRITE YOUR POLICY

For their own protection, and to set a good example for students, all school staff, when outdoors,  • are strongly encouraged to wear  • must wear  • a sun protective hat  • sun protective clothing  • sunglasses	
Students	
<ul><li>are permitted to</li><li>are encouraged to</li></ul>	
are encouraged to     are strongly encouraged to	
must	
wear UV-protective sunglasses when outdoors	

#### Sunscreen

We certainly do not wish to discourage sunscreen use but perhaps many Americans have developed a false sense of security in believing that so long as they use sunscreen they can spend longer times in the sun without worry. The truth is that in practical usage, sunscreen does not afford complete protection. The major fault is not so much in the products but in the usage. Most people do not apply a sufficient amount, miss areas, or do not re-apply often enough. While sunscreen certainly remains a very important component of any good sun safety program it should not be considered the sole or even the front line defense. That's why the other components of the program, such as sun avoidance, hats, long clothing, and environmental support are so necessary.

Sunscreen should be applied before going outdoors to any skin not covered by sun-protective clothing and hat. It must be applied very generously in order to achieve the labeled "SPF" on the bottle. A single application of sunscreen applied before sending a child to school, while better than nothing, will not provide complete all-day protection. Studies have shown that sunscreen should be reapplied at least every two hours to maintain maximum effectiveness. Reapplication is particularly important if the student engages in swimming or strenuous physical activity or when weather conditions cause heavy perspiration. Few people realize that in order to achieve the SPF level claimed on the bottle, 2 mg. of the sunscreen product must be applied per square centimeter of skin. Studies have shown that in reality, most people only apply approximately 0.5 mg. per square cm. so they are not getting anywhere near the SPF they might expect.

Some schools have historically prohibited sunscreen use on campus because of the fact that sunscreens are classified as over the counter drugs. We're delighted that here in California this obstacle was overcome when SB1632 was signed into law. This bill, initiated by the William S. Graham Foundation for Melanoma Research and introduced by Senator Don Perata, modified SB310 (2002) to specifically permit children to use sunscreen at school. The new law, known as "Billy's Bill for Sun Safety," became effective on January 1, 2003.

We suggest that parents be informed of your support for and encouragement of sunscreen use in accordance with this new law. Some important facts to convey to parents include:

Skin cancer is a very serious and worsening problem.

More than 1 million Americans will be diagnosed with skin cancer this year (American Cancer Society). That's as much or more than all other cancers combined.

Children may get about 80% of their total lifetime sun exposure before they are 18 (American Academy of Dermatology).

Childhood sunburns increase the risk for the later development of malignant melanoma.

Adequate sun protection during the first 18 years of life would reduce the lifetime incidence of skin cancer by an estimated 78%.

#### Sunscreen advice:

- Select a product with SPF 15 or higher
- Look for Broad or Full Spectrum coverage (Provides UVA and UVB protection)
- Apply very liberally to exposed skin
- Re-apply after 20 minutes, and again every two hours. This is particularly important for strenuous outdoor activity, water sports, and intense exposure such as at the beach.

Parents should be strongly encouraged to supervise the application of sunscreen to their child's exposed areas of skin prior to school each day. Explain your in-school sunscreen usage policy to parents. Provide a copy of your permission slip, if applicable, to accompany the policy communication.

Because young children may need supervision and possibly some assistance with the application of sunscreen to exposed skin, parents, in giving sunscreen permission for their child, should be asked to give permission for assistance with sunscreen application by designated school personnel when necessary. Remember, in a comprehensive sun safety program, children would be wearing a hat and full length clothing for outdoor activities so it should only be necessary to apply sunscreen to the lower face, front of the neck, and backs of the hands. The savings, both in the cost of sunscreen product and in the time needed to apply the sunscreen, are definitely worth considering in setting policy and making recommendations to parents.

In most cases, students will supply their own sunscreen. Provision should be made for them to stash it at school in their cubby hole, locker, or wherever it can easily be accessed prior to outdoor activities.

Schools in strong support of sunscreen usage may choose to sell sunscreen and sun-protective lip balm on campus. A limited supply could be kept in the nurse's office for special needs, e.g. field trips. The most conscientious schools may even make sunscreen readily available, particularly for outdoor athletic events. It can be acquired in a gallon jug with a pump. Multiple resources for wholesale sunscreen purchase by schools are listed on our website at <a href="https://www.SunSafetyForKids.org">www.SunSafetyForKids.org</a>.

#### SUNSCREEN SCIENCE

by Ralph Massey, M.D.

#### CARCINOGENIC SOLAR RADIATION

The sun emits many types of radiation, each with a specified band of wavelengths. Ultraviolet radiation (UVR) is defined as radiation with a wavelength from 280 to 400nm. This can be further subdivided into ultraviolet A (UVA: wavelength 315-400nm), and ultraviolet B (UVB: wavelength 280-315nm).

When UVR reaches human skin it is absorbed by the molecules that interact most strongly with a particular wavelength. This interaction can result in damage to skin proteins, lipids and most importantly to cellular DNA. It is this damage to the DNA of skin cells that can eventually lead to the development of skin cancers. The DNA damage is most striking when UVB interacts with DNA and initially it was thought that UVB alone was damaging to human skin. However the potential damage caused by UVA is now also well recognized.

The role of sunscreens is to absorb or reflect these damaging rays before they have a chance to interact with the skin

#### PHARMACOLOGY OF SUNSCREENS

Older sunscreens were designed to protect against UVB only. The ability to protect against the acute effects of UVB is the basis for the standard measurement of sunscreen potency, the "Sun Protective Factor" or SPF.

A correctly applied sunscreen with an SPF of 15 reduces the UVB exposure to less than 7% of its original value. However, because application is rarely adequate, the SPF actually achieved is typically less than half of that expected.

There is no universally accepted standardized measurement of a sunscreens' ability to block UVA. However those sunscreens that block both UVA and UVB are defined as "broad-spectrum" sunscreens.

Sunscreens can work either by chemically absorbing UVR or by physically blocking / reflecting UVR. A particular sunscreen product will usually contain a combination of active ingredients. Some ingredients are better at blocking UVB while others block UVA. The ingredients which are chosen and how they are combined will affect the SPF and the breadth of coverage of the product over the UVA-UVB range. Chemical sunscreen ingredients include: para-aminobenzoic acid (PABA), PABA esters, cinnamates, benzophenes, salicylates, octocrylene and dibenzoyl-methane (the latter affording protection from UVA). Note, PABA has been deleted from most of today's sunscreens and PABA-free sunscreens are generally recommended for children. The physical blockers include titanium dioxide and zinc oxide. These are broad spectrum, (block both UVA & UVB), and are less likely to cause skin reactions than the chemical sunscreens.

Sunscreens can be made with a variety of vehicles such as moisturizing for dry skin, lotion for normal skin and non-comedogenic gel or alcohol formulations for oily or acne-prone skin. Sunscreen "For Kids" connotes minimal risk of stinging or irritation to the skin or eyes.

Tremendous progress has been made in improving the protective capability of sunscreens since the first products were introduced years ago and research laboratories around the world continue the search for even better ingredients and combinations. Sun Safety for Kids will keep you updated on the latest developments in this area but for now it's important to remember that sunscreens act like a filter, not a complete block. We all must remember to use additional methods of sun protection, such as hats, full length clothing, sunglasses, and sun avoidance at midday.

#### REFERENCES

J Am Acad Dermatol 2001, 44, 505-508. AAD consensus conference on UVA protection of sunscreens.

J Pediatr Health Care 1999, 13, 136-138. Sun smarts: The essentials of sun protection.

Drug and Therapeutics Bulletin 1998, 36, 7, 49-51. Do sunscreens prevent skin cancer.

Phtodermatol Photoimmunol Photomed 1997, 13, 186-188. How well are sunscreen users protected?

# SUNSCREEN POLICY WORKSHEET

# POLICY SUGGESTIONS WRITE YOUR POLICY

•	Parents shall be strongly encouraged to ensure the application of sunscreen to exposed areas of their child's skin prior to the child coming to school each day. (Attach copy of "Dear Parent" letter)	
•	Parents shall be strongly encouraged to provide a supply of sunscreen for their child's use while at school if it is likely that the child will be outdoors between 10:00 a.m. and 4:00 p.m. (Attach copy of Parent Permission Slip for sunscreen use.)	
•	Between 10:00 a.m. and 4:00 p.m. students who have not already applied sunscreen prior to coming to school shall be encouraged to apply sunscreen to exposed areas of skin prior to outdoor activities	
•	Students shall be encouraged to reapply sunscreen prior to activities of ten minutes or longer between 10:00 a.m and 4:00 p.m. on days when the UV index is 5 or higher and when two or more hours have passed since last application	
• • apply	shall be encouraged to shall be strongly encouraged to must sunscreen to areas of skin not protected and clothing	

# SUNSCREEN POLICY WORKSHEET

## **POLICY SUGGESTIONS**

#### WRITE YOUR POLICY

Students      are encouraged to     are strongly encouraged to     must apply sunscreen to exposed areas of skin prior to outdoor athletic activities between 10:00 a.m. and 4:00 p.m.	
Staff	

#### Sample Letter to Parents Regarding Your School's Sunscreen Policy

RE: Sunscreen Use at School

Dear Parent,

Studies have shown that most of the sun damage which leads to skin cancer is acquired during childhood. For this reason we strongly recommend sunscreen usage as one component of a comprehensive sun protection program. Please supervise the application of sunscreen to your child prior to school each day.

Dermatologists recommend the use of sunscreens which provide:

- SPF 15 or higher
- Broad or Full Spectrum coverage (Blocks both UVA and UVB light)

Studies have shown that most people do not apply enough sunscreen to achieve the "SPF" level claimed on the bottle. It must be applied generously and care must be taken not to accidentally skip or miss areas that will be exposed. If there's a possibility that sunscreen might not be re-applied at school, it may be advisable to use a higher SPF (30 or higher) for the morning application.

#### [This paragraph for elementary schools]

Make arrangements with the teacher to keep a bottle of your child's sunscreen in the classroom for re- application prior to outdoor activities. Don't forget to provide a sun protection hat and cover-up clothing, too! If you would like additional information about sunscreens, check online at www.SunSafetyForKids.org and at www.AAD.org .

#### [This paragraph for secondary schools]

Please ensure that your child carries sunscreen in his or her backpack, and keeps an extra bottle in the locker for re-application prior to outdoor school activities. A sun protection hat and long clothing are also highly recommended for more complete sun protection during outdoor activities. If your child is prone to acne, select a sunscreen product which claims to be "non-comedogenic" or safe for acne-prone skin. If you would like additional information about sunscreens, check online at www.SunSafetyForKids.org and at www.AAD.org.

Protecting your child from sun damage now will reduce his or her risk for developing skin cancer later in life. Please be sure to encourage sun safety at home while we do the same here at \_\_[name of school]\_.

Sincerely,

#### **Environmental Support**

One of the best ways to protect yourself from solar radiation is simply to avoid the sun or seek shade. Children will learn this from our recommended educational curriculum materials. Environmental support refers to the provision or availability of sun protected areas. It could be a row of shade trees, a shade structure over the play equipment, a structural element like the side of a tall building, or an available indoor area. Adjusting the time of day at which outdoor activities are scheduled (to avoid midday) is another way of providing environmental support. Good environmental support will automatically reduce children's sun exposure to a certain extent while also providing essential options for further self protection.

#### ULTRAVIOLET (UV) INDEX

The United States Environmental Protection Agency (EPA) provides excellent information through their SunWise program, including the daily UV index forecast, searchable by zip code. Visit their website at <a href="http://www.epa.gov/sunwise/uvindex.html">http://www.epa.gov/sunwise/uvindex.html</a>. The UV index forecast is also reported at <a href="http://www.epa.gov/sunwise/uvindex.html">www.weather.com</a>. We strongly encourage schools to adopt policy to ensure that the UV index is announced in home room class each morning. On days when a UV index of 5 or higher is forecast, it's especially important to remind students to take careful precautions to avoid sun damage.

A very important function of your school's sun safety officer or committee should be to take inventory of the amount of dense shade currently provided on campus and to identify areas where shade is needed. A shade survey should be conducted at least once a year. In areas where shade is desirable, choose from among trees, shade structures, and architectural elements to best meet the need. Engage the P.T.A. to help prioritize the wish list and to design fund raising events to finance the projects. For starters we should at least ensure that the outdoor lunch tables and play equipment are shaded. Still, we must realize that there can be significant ultraviolet radiation during periods of high UV index even in the shade, so it's still important to take the usual precautions of wearing a hat, long clothing, sunscreen, and sunglasses when outdoors, even in shaded areas.

#### SHADE OPTIONS

#### **TREES**

The right tree can provide an excellent source of dense shade which can be psychologically soothing as well as sun-protective. Trees have the added benefit of helping to cool buildings to reduce air conditioning costs and to cool playgrounds to reduce the risk of heat prostration.

If trees have been avoided or eliminated from your school, perhaps as a cost-cutting measure, now is the time to re-examine that policy in light of the multiple benefits trees may provide including sheltering students from carcinogenic solar radiation. Since trees can also shade and thereby cool buildings, the costs of tree maintenance could be offset to a degree by the lowered air conditioning costs.

Many factors such as quality of canopy, growth rate, cleanliness, maintenance, potential surface

root damage, allergenicity, and adaptability to your local climate will need to be considered in choosing the best tree(s) for your facility. At our request, Mr. Frank McDonough, horticulturist at the Los Angeles Arboretum, has provided his recommendations for the five best shade trees for use on Southern California campuses. Check the Trees page for this list. We also provide reference to tree wholesalers in the Los Angeles area.

#### TREE PEOPLE and COOL SCHOOLS

For the past thirty years Tree People, a non-profit organization, has been voluntarily helping with the planting of new trees in the Los Angeles area. In recent years, they have been particularly focused on helping schools to "green" their campuses and to introduce trees to outdoor playground areas, many of which in recent decades have become rather barren. Through their "Campus Forestry" project, Tree People assists schools to design and develop a tree-planting program involving the participation of students, staff, and parents. Funding in support of the project can sometimes be obtained from the "Cool Schools" program of the Department of Water and Power or from various charitable foundations with which the Tree People has developed good working relations. To learn more about Tree People and how they might help at your school, visit their website at www.treepeople.org or contact Mariah MacNeil at (818) 623-4860.

#### **SHADE STRUCTURES**

Permanent shade structures provide an alternative for creating high quality shade where trees may not be the best option. Some of the most suitable for schools are ramada or arbor style structures in which sturdy posts support a roof which can be constructed of steel or shade cloth. A steel roof has the added benefit of protecting from rain while fabric covers allow for greater flexibility in size and design. The outdoor lunch tables might best be covered by a steel roofed structure while a fabric covered structure might be the ideal choice for bleachers, jungle gym equipment, and large or irregular shaped areas.

In assessing the adequacy of shade provision at your school, perhaps prime attention should be directed to the outdoor eating areas. Next might be the young children's jungle gym play equipment area.

Temporary shade structures, such as umbrellas or portable shelters are useful for providing shade at special or impromptu events and as a shield from solar radiation for staff on yard duty and outdoor pool supervision, etc. A simple handheld umbrella or parasol can be quite helpful at times.

Check the Shade Structures in the Environmental Support section of our website (www.SunSafetyForKids.org) for DSA-approved manufacturers and installers of permanent shade structures as well as additional resources.

#### **ARCHITECTURE**

In case any remodeling or new construction is planned for the facility, shade provision should be be given serious consideration in the architectural design. If thought out ahead of time, there may be very cost-effective opportunities for providing areas of high quality shade by planning permanent structural elements such as covered porches, broad eaves, or breezeways.

# SCHEDULING OF ACTIVITIES: INDOOR OPTIONS AND OUTDOOR RELOCATION

Survey the student congregation areas, as well as the games and activities that children currently engage in outdoors during the hours of high ultraviolet radiation between 10:00 a.m. and 4:00 p.m. Make as many indoor and densely shaded areas available to students as possible during those times and offer games & activities that provide an alternative to outdoor recreation in open areas. Take maximum advantage of the afternoon shade provided by tall buildings as a location for some activities. By contrast, maximize scheduling of outdoor activities prior to 10 and after 4 when UV radiation is reduced.

We fully realize that most schools do not have the time and financial resources to immediately provide ideal environmental support. Obviously it would be impractical if not foolish to fully cover a typical school property, so children will continue to play in the sun. However, so long as alternative activities are offered in shaded areas or indoors, schools do have the option to require that children who wish to engage in open outdoor activities should be properly outfitted for sun protection. In Australia, where sun safety efforts are already beginning to pay off with reduced skin cancer rates, school children must **Slip** on a long-sleeved shirt, **Slap** on a hat, and **Slop** sunscreen on their remaining exposed skin before they are permitted to play in the sun. We should follow their good example.

# 5 Winning Shade Trees for use on Los Angeles area campuses

by Frank Mc Donough, Horticulturist, Los Angeles Arboretum



# London Plane Tree / Platanus acerifolia

The best bet for lots of shade in the minimal amount of time. This tree is deciduous. It loses its leaves, but only once a year as opposed to constantly like many evergreen trees. The London Plane tree can grow to 80 feet tall by over 40 feet wide, making it a good choice where you want the maximum amount of shade for your investment. It does well in almost all Southern California climates. You can buy this tree in bulk quantities in its bare-root form from several different suppliers here. If irrigated properly, root damage is minimal for a tree of its size.



# Maidenhair tree / Ginkgo biloba

Although slow growing at first, Ginkgo's hardiness in urban situations makes it well worth the wait. Besides growing to 80 feet in height and almost 60 feet in width, this tree puts on a spectacular fall foliage show.



# Silk tree / Albizia julibrissin

Provides a broad, umbrella-like canopy of finely cut leaves. Its shade is somewhat less dense than other shade trees, so it lends itself to shading areas where more light might be required. The Silk tree produces beautiful pink pom-pom flowers in the summer.



# Oaks, English / Quercus rubra, Red Quercus robur, Pin Quercus palustris

These deciduous oaks are spreading trees that can grow over 65-80 feet tall. Although water hungry and slow growing (about 2 - 3 feet per year) these oaks are very long-lived and sturdy.



# Sawleaf Zelkova / Zelkova serrata

Vase shaped moderate sized shade tree. Zelkova is a Japanese relative to the American elm that is less susceptible to diseases that make American elms a poor choice. "Breen Vase" variety is fast growing to 70 feet.

# ENVIRONMENTAL SUPPORT POLICY WORKSHEET

#### **POLICY SUGGESTIONS**

#### WRITE YOUR POLICY

1(Name & title of Sun Safety officer or committee)shall perform a sun safety environmental survey of our school and its property on a regular basis at least every months.	
2. The survey shall include a shade evaluation of the outdoor sites where students congregate or play between 10:00 a.m. and 4:00 p.m.	
3. Based on the survey, the outdoor areas where shade is sufficient and the areas where additional shade is desirable shall be designated.	
4. Reasonable efforts shall be made to maximize the availability and usability of existing shaded and indoor areas between 10:00 a.m. and 4:00 p.m.	
5. Within reason, efforts shall be made to invite or re-direct as many outdoor activities and congregation sites as possible away from un-protected areas and into shaded or indoor areas between 10:00 a.m. and 4:00 p.m.	
6. The schedule of sanctioned outdoor student activities (e.g. physical education classes) shall be evaluated and adjusted where possible and within reason in order to maximize the scheduling of outdoor activities during the time periods before 10:00 a.m. and after 4:00 p.m. and to minimize outdoor scheduling between 11:00 a.m. and 2:00 p.m.	

# ENVIRONMENTAL SUPPORT POLICY WORKSHEET

<ul> <li>7. For each designated area where additional shade is desirable, the <u>(Sun Safety officer or committee)</u> shall:</li> <li>Determine the dimensions of the area</li> <li>Determine and rank the possible solutions for fulfilling the need (tree, shade structure, etc.)</li> <li>Obtain cost estimates for each proposed solution</li> <li>Prioritize the list of needs</li> <li>Direct campaigns for fund raising, construction, tree-planting, etc.</li> </ul>	
8. A "Sun Safety" financial account under the direction of(name & title of officer) will be established to receive and disburse monies designated for our sun protection programs and projects.	
9. The environmental impact on shade provision shall be an important consideration in our school's landscape maintenance and design decisions affecting the maintenance, removal, replacement, or addition of trees.	

#### **CURRICULUM**

The importance of classroom instruction in a comprehensive sun safety program cannot be overly stressed. A single intervention in a child's life, such as a one-time school assembly, is insufficient. For maximum effectiveness, children should receive age-appropriate instruction on the subject of sun protection at every grade level. Fortunately, excellent educational materials already exist which have been designed for use by classroom teachers in existing school programs. Based on our evaluation we recommend the following:

#### PRESCHOOL through KINDERGARTEN

#### The Child Care Sun Safety Education Package

http://www.dhs.ca.gov/cpns/skin/skin resources.html

Created and distributed by the Skin Cancer Prevention Program of the California Department of Health Services, this package is provided free to California child care centers. Each package contains:

The California Early Childhood Sun Protection Curriculum

Hot Shots educational video

Alex the Alligator poster

Sun Protection Guidelines for Outdoor Play

#### **ELEMENTARY SCHOOL**

#### **Sunny Days Healthy Ways**

http://www.sdhw.info/

The Sunny Days Healthy Ways (SDHW) curriculum was developed by the AMC Cancer Research Center of Denver, Colorado with the help of educators, design experts, and dermatologists. It is designed for use by classroom teachers, utilizing traditional teaching methods including lectures, hands-on activities, exercises and experiments. Intended to fulfill national, state and local curricular requirements, it can be incorporated into existing science, health or safety curricula. The curriculum for each grade level, K-5, is provided in Adobe Acrobat (.pdf) format on a single CD-ROM which also includes lesson plans, storybooks, and camera-ready student activity masters.

SDHW helps children learn the fundamental concepts which will both empower and encourage them to protect themselves from sun damage. We applaud the SDHW program for presenting the sun safety issues in their proper order of importance:

- 1. The beneficial and harmful effects of sunlight
- 2. Sun avoidance techniques
- 3. Sun-protective hats and cover-up clothing
- 4. Sunscreen use

Also available from SDHW are interactive computer games for elementary school children which reinforce the formal curriculum

#### **Environmental Protection Agency**

http://www.epa.gov/sunwise/educators.html

The United States EPA provides the SunWise program for grades K-8. Schools are encouraged to apply for registration with the EPA as a SunWise Partner School and receive the free Tool Kit containing cross-curricular classroom lessons for activities to raise children's awareness of sun safety practices.

#### Sun Safety for Kids Educational Videos

In collaboration with the California Dept. of Health Services and with sponsors including the US Environmental Protection Agency, Sun Safety for Kids is currently in the process of producing two new sun protection educational videos. One will be designed for students in Grades 1-3 and the other will target Grades 4-6. Please watch the "What's New" page on our website, www.SunSafetyForKids.org for news on their availability.

#### MIDDLE SCHOOL

The Sunny Days Healthy Ways program offers a new curriculum and student workbook for middle school students. We have evaluated an advance copy and find it to be equally excellent in quality compared to their curriculum for elementary grades. It will soon be available in CD-ROM format. Visit the <a href="www.sdhw.info">www.sdhw.info</a> website to request an advance (print version) copy of the curriculum and student workbook.

Project S.A.F.E.T.Y. (see below), which is ideal for high school students, recommends their curriculum for middle school as well. Our evaluators felt that, due to this program's strong emphasis on skin cancer with quite graphic depictions of real cases, it may be best suited for grades 8 and above.

#### HIGH SCHOOL

#### **Project S.A.F.E.T.Y.**

www.mdanderson.org/departments/projectsafety/

The University of Texas, M.D. Anderson Cancer Center, has produced an excellent program for high school students which integrates well with Health or Science curricula.

The Curriculum has been upgraded for 2002 and is now provided in cutting edge CD format in which video clips and other special effects are incorporated with lecture material. This allows for individual viewing at a computer or it can be shown to the entire class with the aid of a computer and multimedia projector.

The emphasis of Project SAFETY is on skin cancer, its cause and prevention. Graphic clinical images of skin cancer afflicted patients were chosen to be intentionally shocking and to hold the attention of adolescents. Young melanoma victims are interviewed and discuss the serious mistake they made in trying to tan their skin. Skin biology and pathology are taught lecture-style with the aid of animation and special effects. The main goal, to change students' attitudes about sun tanning, is effectively met.

The material is divided into three 50-minute lessons. This relieves the classroom teacher of the necessity to present formal lectures. However, the accompanying Teacher's Guide includes outlines, objectives, handout masters for easy duplication, a glossary, and optional activities for further teacher-moderated instruction.

#### IDEAS for high school projects involving the study of sun safety:

- **Powerpoint®:** Design a supervised project for a few health-career-minded upper level students. Ask them to develop a presentation on sun safety which they will present to their classmates or to an assembly of all the incoming freshmen. (Mixed in with the scientific information, a couple of images of skin cancer projected on the big screen really gets their attention!) A supplemental handout pamphlet should be created which highlights their important points. One of the most important goals should be for the students to convince their student audience that sun tanning is really stupid. Ideas and reference material for the students to use can be found on the Project S.A.F.E.T.Y. CD or among the references on this website.
- **Video:** Have a few students design and tape an educational video, documentary, or mock news program on the subject of sun safety.
- Webpage: One or more students could design a mock (or real) internet webpage.
- **Journalism:** Student(s) develop a sun safety story. It might be based around a local case involving sunburn or skin cancer.
- **Health Research:** Student(s) design and conduct a study of teen attitudes or behavior

concerning sun safety before and after some intervention, such as one of the above activities or the study of sun safety in class.

For any of the above projects, a student should contact a local dermatologist and request the doctor's assistance in reviewing their material for accuracy prior to presentation. If the students are making a video, they might wish to include a taped interview with the dermatologist. In case your dermatologist is not already familiar with Sun Safety For Kids, refer them to the website at www.SunSafetyForKids.org. Once engaged, perhaps the students could convince the dermatologist to speak with your school district administrators to encourage sun safety program development at all the schools in the district. There's yet another project!

If you have additional great ideas, please contact us through our website at www.SunSafetyForKids.org so that we may add them to these suggestions.

#### ATHLETIC AND MUSIC DEPARTMENTS

Certain risks associated with sports activities are well recognized and most sports have specialized gear to help protect the athlete in some way. Yet all too frequently we overlook the cancer causing risk associated with exposure to ultraviolet radiation in the conduct of outdoor sports activities or marching band practice and performances. A prime sports example is golf where the current fashion is for players to wear shorts, short sleeved shirts, and maybe an inadequate visor or baseball cap despite prolonged sun exposure, oftentimes at midday.

All school sports and physical education as well as other school sanctioned activities conducted in open outdoor areas between 10:00 a.m. and 4:00 p.m. should be reviewed with consideration given to the feasibility of suggesting or requiring sun-protective hats, clothing and sunscreen. The school's specifications for marching band and gym uniforms should be re-evaluated to determine whether the uniform could be made more sun-safe. For example, sunglasses and a sun-protective marching band hat would be sensible additions to the band uniform. The goal is to provide the student with a fighting chance to prevent skin cancer. This can be accomplished by giving consideration to how they can be better protected from UV radiation without creating undue restriction of activity.

Specific suggestions to consider include:

- Legionnaire style hats for most outdoor physical education activities
- A sun-protective hat added as a component of marching band and gym uniforms
- Long sleeved top where feasible
- Long pants where feasible
- Neck to knees "rash guard" type sun protective swimwear for outdoor pools
- For swimmers coming out of the water, a long wrap with hood or a hat and cover-up garments
- UV-blocking sunglasses where feasible
- Encourage, require, or even provide sunscreen for students
- PE teachers should set a good example by wearing a hat, cover-up clothing, sunglasses, and using sunscreen when outdoors

Athletic and Music department directors should also investigate opportunities to provide improved shade options for students by maximizing the scheduling of outdoor activities before 10:00 a.m. and after 4:00 p.m. and by searching for additional shaded or indoor areas to be used for activities between 10 and 4. Directors can further assist the administration by identifying and prioritizing areas where trees could be planted or shade structures installed.

# ATHLETIC AND MUSIC DEPARTMENTS **POLICY WORKSHEET**

#### POLICY SUGGESTIONS WRITE YOUR POLICY

Athletic and Music Department directors shall evaluate dress and uniform policies pertaining to outdoor physical education, sports, and band activities in order to incorporate sun-protective hats, clothing, and/or other gear where feasible into the recommendations and requirements.	
Consideration shall be given to the impact of ultraviolet radiation in scheduling outdoor activities.  The preferred times for outdoor activities are the hours before 10:00 a.m. and after 4:00 p.m.  Consideration shall be given to the feasibility of re-directing outdoor activities scheduled between 10:00 a.m. and 4:00 p.m. to indoor or shaded areas.	
Students      are encouraged to     are strongly encouraged to     must apply sunscreen to areas of skin not protected by hat or clothing prior to outdoor activities between 10:00 a.m. and 4:00 p.m.	
Students      are encouraged to     are strongly encouraged to     must     wear UV protective sun glasses for outdoor activities between 10:00 a.m. and 4:00 p.m.     with the exception of activities where eyeglasses pose an unacceptable risk (attach list)	

#### **Websites and References**

#### **WEBSITES**

- Sun Safety For Kids: <a href="www.SunSafetyForKids.org">www.SunSafetyForKids.org</a>
  All of the material in this document plus many additional resources are posted to the Sun Safety for Kids website. For further information or comments about our program, please use the "Contact Us" page on the website.
- American Academy of Dermatology: <u>www.aad.org</u>
   Excellent general information about skin cancer, melanoma, moles, sun protection.
- (United States) Environmental Protection Agency: <u>www.epa.gov</u> SunWise program for schools; UV Index
- California Department of Health Services, Skin Cancer Prevention Program; Andrew Manthe, Director <u>www.dhs.ca.gov/cpns/skin/index.html</u>
   Pre-School/Kindergarten and Outdoor Worker programs & materials
- "Billy Foundation" The William S. Graham Foundation for Melanoma Research:
   <a href="https://www.bfmelanoma.com">www.bfmelanoma.com</a>
   <a href="https://www.bfmelanoma.com">"Sun Safe Kids"</a> program; Community and school programs; Sponsorship of melanoma research
- California Society of Dermatology & Dermatologic Surgery: <u>www.calderm.org</u> Representing dermatologists and their patients in the California Legislative Process.
- The Skin Cancer Foundation: <a href="www.skincancer.org">www.skincancer.org</a>
  Information and materials relating to skin cancer; Informative newsletter.
- The American Cancer Society: www.cancer.org
- The Weather Channel: <a href="www.weather.com">www.weather.com</a>
  UV Index with excellent interactive application
- The Los Angeles Metropolitan Dermatological Society: <u>www.lametroderm.org</u> Founder/Sponsor of this SunSafetyForKids Program and its website.

#### **EDUCATION REFERENCES**

- 1. Glanz K, Maddock JE, Lew RA, Murakami-Akatsuka. A randomized trial of the Hawaii SunSmart program=s impact on outdoor recreation staff. J Am Acad Dermatol 44:973-978, 2001
- 2. Montague M, Borland R, Sinclair C. Slip! Slop! Slap! and SunSmart, 1980-2000: Skin Cancer Control and 20 years of population-based campaigning. Health Educ & Behav 28(3):290-305, 2001.

- 3. Glanz K, Lew RA, Song V, Murakami-Akatsuka L. Skin Cancer Prevention in Outdoor Recreation Settings: Effects of the Hawaii SunSmart Program. Effective Clinical Practice 3(2):53-61, 2000.
- 4. Glanz K, Carbone E, Song V. Formative research for developing targeted skin cancer prevention programs for children in multiethnic Hawaii. Health Educ Res 14(2): 155-166, 1999.
- 5. Glanz K, Chang L, Song V, Silverio R, Muneoka L. Skin cancer prevention for children, parents, and caregivers: A field test of Hawaii=s SunSmart program. J Am Acad Dermatol38(3):413-417, 1998.
- 6. Buller MK, goldbert G, Buller DB. Sun smart day: a pilot program for photoprotection education. Pediatr Dermatol 14:257-263, 1997.
- 7. Vitols P, Oates RK. Teaching children about skin cancer prevention: why wait for adolescence? Aust NZ J Public Health 21:602-605, 1997
- 8. Mayer J, Slymen DJ, Eckhardt L, Johnston MR, Elder JP, Sallis JF, Creech L, Lui KJ, Rosenbert C, Souvignier ST, Stepanski B. Reducing ultraviolet radiation exposure in children. Prev Med 26: 516-522, 1997
- 9. Buller DB, Buller MK, Beach B, et al. Sunny days, healthy ways: evaluation of a skin cancer prevention curriculum for elementary school-aged children. J Am Acad Dermatol 35:911-922, 1996.
- 10. Girgis A, Sanson-Fisher RW, Tripodi DA, et al. Evaluation of interventions to improve solar protection in primary schools. Health Educ Quart 20:275-287, 1993
- 11. Fork HE, Wagner RF, Wagner KD. The Texas peer education sun awareness project for children: primary prevention of malignant melanoma and nonmelanocytic skin cancers. Cutis 50:363-364, 1992.

#### SKIN CANCER PREVENTION REFERENCES

- 1. Bennett ML, Petraxxuoli M. What patients should know about sunscreens. Skin & Aging July 2001:50-57.
- 2. Wright MW, Wright, Wright ST, Wagner RF. Mechanisms of sunscreen failure. J Am Acad Dermatol 44(5):781-784, 2001.
- 3. Noonan FP, Recio JA, Takayama H, Duray P, Anver MR, Rush WL, DeFabo EC, Merlino G. Neonatal sunburn and melanoma in mice. Nature 413(6853):271-2, 2001.
- 4. Coogan PF, Geller A, Adams M, Steinberg Benjes L, Koh HK. Sun protection practices in

- preadolescents and adolescents: A school-based survey of almost 25,000 Connecticut schoolchildren. J Am Acad Dermatol 44(3):512-519, 2001.
- 5. Harris RB, Griffith K, Moon TE. Trends in the incidence of nonmelanoma skin cancers in southeastern Arizona, 1985-1996. J Am Acad Dermatol 45(4): 528-536, 2001.
- 6. Gallagher RP, Rivers JK, Lee TK, Bajdik CD, McLean DI, Coldman AJ. Broad-spectrum sunscreen use and the development of new nevi in white children: a randomized controlled trial. JAMA 283:2955-2960, 2000
- 7. Hill D and Dixon H. Promoting sun protection in children: rationale and challenges. Health Education and Behavior 26:409-417, 1999.
- 8. Emmons KM, Colditz GA. Preventing excess sun exposure: it is time for a national policy. J Natl Cancer Inst 91:1269-1270, 1999.
- 9. Clarke VA, Williams T, Arthey S. Skin type and optimistic bias in relation to the sun protection and suntanning behaviors of young adults. J Behavioral Medicine 20(2):207-222, 1997.
- 10. Mayer J, Slymen DJ, Eckhardt L, Johnston MR, Elder JP, Sallis JF, Creech L, Lui KJ, Rosenberg C, Souvignier ST, Stepanski B. Reducing ultraviolet radiation exposure in children. Prev Med 26:516-522, 1997.
- 11. Zinman R, Schwartz S, Gordon K, Fitzpatrick E, Camfield C. Predictors of sunscreen use in childhood. Arch Ped & Adol Med 149(7): 804-807, 1995.
- 12. Truhan AP. Sun protection in childhood. Clinical Pediatrics 30(12):676-681, 1991.
- 13. Weinstock MA, Colditz GA, Stampfer MJ, Bronstein BR, Mihm MC, Speizer FE. Nonfamilial cutaneous melanoma incidence in women associated with sun exposure before 20 years of age. Pediatrics 84(2):199-204, 1989.
- 14. Marks R. Nonmelanotic skin cancer and solar keratoses: the quiet 20th century epidemic. Int J Dermatol 26(4):201-205, 1987.
- 15. Stern RS, Weinstein MC, Baker SG. risk reduction for nonmelanoma skin cancer with childhood sunscreen use. Arch Dermatol 122(5):537-545, 1986.